High Temperature CCR One Page Manual

Startup:

1. Attach sample in desired holder, secure both heat shields, being careful not to over tighten them, and then screw on the outer cover.
2. Open the valve and connect the vacuum port to a turbo pump.
3. Pump the chamber down to the mid 10^{-4} Torr scale before starting the compressor.
4. Sometimes the compressor will orange light then restart, this is normal, but should not last more than five minutes.

Operation is now done from the controller by entering a set point. The operating range varies from machine to machine, consult the log for details.

During Operation:

1. The compressor should remain on at **all** times, even when heating to high temperatures. This is to keep the cold stage from over heating.
2. In the event that the cold stage exceeds 340K the heater will be disabled and cannot be re-enabled until the temperature falls below 340K.
3. To keep a good vacuum simply leave the turbo pump on at all times, although it is possible to close the valve and turn the pump off if necessary.
4. If for any reason the compressor stops running, turn off the heater and contact someone on the sample environment staff.

Shutdown/Change of Sample if Under Room Temp:

1. Turn off the compressor and leave the heater on with a set point of 300K.
2. Close the vacuum port valve and turn off the pump, waiting until the four speed indicator lights on the turbo pump are off before removing the hose.
3. Time permitting skip to step five. (Skipping step four adds approximately 2 hours.)
4. For a quicker shutdown/sample change vent the sample chamber with helium. Start by attaching a nipple to the vacuum port then purge the low pressure helium line and nipple and connect them together. Slowly open the valve and then close it.
5. Once the cold stage approaches room temperature open the outer cover. Using the helium technique this should be approximately half an hour.

Shutdown/Change of Sample if Above Room Temp:

1. Turn off the heater while leaving the compressor on to cool the sample block.
2. Once the sample block drops below 325K turn off the compressor and the turbo pump.